

In the Claims

Claims are amended as follows:

1 to 19. (cancelled)

20. (previously presented) A communication system comprising:

a plurality of virtual private networks 'VPNs' interconnected by a first data network;

a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; and

a VPN gateway having a VPN media proxy interfacing the first and second data networks, the VPN gateway being shared by said plurality of VPNs and providing a plurality of virtual routing functions, respective ones of said plurality of virtual routing functions being connected to respective ones of said plurality of VPNs such that each virtual routing function is in the address space of a respective one of said plurality of VPNs, wherein the VPN media proxy is configured to pass information from a source address in said at least one of said plurality of VPNs to a destination address in said second data network, the VPN media proxy having an address translator arranged to translate the destination address of the information in accordance with the network addressing scheme of the second data network, and to send the information towards the translated destination address in the second data network.

21. (previously presented) The communication system as claimed in claim 20, wherein the address translator is arranged to translate a destination address of information being transmitted from a source address in the second data network to a destination address in said at least one of said plurality of VPNs in accordance with the network addressing scheme of said at least one of said plurality of VPNs, and to send the information towards the translated destination address in said at least one of said plurality of VPNs.

22. (previously presented) The communication system as claimed in claim 21, wherein the first data network is a public data network using a public Internet Protocol 'IP' network addressing scheme, the second data network is a carrier data network using a private IP network addressing scheme and one or more of said plurality of VPNs uses a private IP network addressing scheme.

23. (previously presented) The communication system as claimed in claim 22, wherein, where more than one of the VPNs use a private IP network addressing scheme, some of said private IP network addressing schemes have overlapping address ranges.

24. (previously presented) The communication system as claimed in claim 22, wherein the carrier data network interfaces the public data network to a switched telephone network 'STN' via a trunk gateway whose carrier data network IP address is the destination address for information being transmitted from a source address in any of the VPNs to a destination address in the carrier data network.

25. (previously presented) The communication system as claimed in claim 24, wherein the STN is a public STN 'PSTN'.

26. (previously presented) The communication system as claimed in claim 24, wherein the VPN gateway is configured to transmit call signaling information between said at least one of said plurality of VPNs and the carrier data network via the public data network and the VPN media proxy being configured to transmit bearer information comprising a call between said at least one of said plurality of VPNs and the carrier data network via the public data network once a call has been established in response to said transmission of call signaling information, the address translator of the VPN media proxy being configured to translate a destination address of said bearer information to the carrier data network IP address of the trunk gateway.

27. (previously presented) The communication system of claim 26, wherein the call signaling comprises voice over IP 'VoIP' call signaling and the call comprises a VoIP call.

28. (cancelled)

29. (previously presented) The communication system as claimed in claim 20, wherein the address translator of the VPN media proxy is configured to provide a network address translation function to each of the virtual routing functions.

30. (previously presented) A method of address translation in a communication system comprising a plurality of virtual private networks 'VPNs' interconnected by a first data network; a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; and a VPN gateway having a VPN media proxy interfacing the first and second data networks, the method comprising:

- providing in the VPN gateway a plurality of virtual routing functions, respective ones of said plurality of virtual routing functions being connected to respective ones of said plurality of VPNs such that each virtual routing function is in the address space of a respective one of said plurality of VPNs;

- passing information via the VPN media proxy from a source address in said at least one of said plurality of VPNs to a destination address in said second data network;

- at an address translator of the VPN media proxy, translating the destination address of the information in accordance with the network addressing scheme of the second data network, and

- sending the information towards the translated destination address in the second data network.

31. (previously presented) The method as claimed in claim 30, wherein the address translator translates a destination address of information being transmitted from a source address in the second data network to a destination address in said at least one of said plurality of VPNs in accordance with the network addressing scheme of said at least one of said plurality of VPNs, and sends the information towards the translated destination address in said at least one of said plurality of VPNs.

32. (cancelled)

33. (previously presented) The method as claimed in claim 30, wherein the address translator of the VPN media proxy provides a network address translation function to each of the virtual routing functions.

34. (previously presented) The method as claimed in claim 31, wherein the first data network is a public data network using a public Internet Protocol 'IP' network addressing scheme, the second data network is a carrier data network using a private IP network addressing scheme and one or more of said plurality of VPNs uses a private IP network addressing scheme.

35. (previously presented) The method as claimed in claim 31, wherein, where more than one of the VPNs use a private IP network addressing schemes, some of said private IP network addressing schemes have overlapping address ranges.

36. (previously presented) The method as claimed in claim 31, wherein the carrier data network interfaces the public data network to a switched telephone network 'STN' via a trunk gateway whose carrier data network IP address is the destination address for information being transmitted from a source address in any of the VPNs to a destination address in the carrier data network.

37. (previously presented) The method as claimed in claim 36, wherein the STN is a public STN 'PSTN'.

38. (previously presented) The method as claimed in claim 36, wherein the VPN gateway transmits voice over IP 'VoIP' call signaling information between said at least one of said plurality of VPNs and the carrier data network via the public data network and the VPN media proxy transmitting bearer information comprising a VoIP call between said at least one of said plurality of VPNs and the carrier data network via the public data network once a VoIP call has been established in response to said transmission of VoIP call signaling information, the address translator of the VPN media proxy translating a destination address of said bearer information to the carrier data network IP address of the trunk gateway.

39. (previously presented) A virtual private network 'VPN' gateway having a VPN media proxy for a communication system comprising a plurality of virtual private networks 'VPNs' interconnected by a first data network and a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; the VPN media gateway comprising:

- a first interface for interfacing with the first data network;

- a second interface for interfacing with the second data network;

- a plurality of virtual routing functions, respective ones of said plurality of virtual routing functions being connected to respective ones of said plurality of VPNs such that each virtual routing function is in the address space of a respective one of said plurality of VPNs whereby said VPN gateway is shared by said plurality of VPNs; and

means for passing information from a source address in said at least one of said plurality of VPNs to a destination address in said second data network, said means for passing information comprising an address translator for translating the destination address of the information in accordance with the network addressing scheme of the second data network and sending the information towards the translated destination address in the second data network.

40. (previously presented) The VPN gateway as claimed in claim 39, wherein the address translator is arranged to translate a destination address of information being transmitted from a source address in the second data network to a destination address in said at least one of said plurality of VPNs in accordance with the network addressing scheme of said at least one of said plurality of VPNs, and to send the information towards the translated destination address in said at least one of said plurality of VPNs.

41. (cancelled)

42. (previously presented) The VPN gateway as claimed in claim 39, wherein the address translator of the VPN media proxy is configured to provide a network address translation function to each of the virtual routing functions.

43. (previously presented) The VPN gateway as claimed in claim 40, wherein the first data network is a public data network using a public Internet Protocol 'IP' network addressing scheme, the second data network is a carrier data network using a private IP network addressing scheme and one or more of said plurality of VPNs uses a private IP network addressing scheme, the carrier data network interfaces the public data network to a switched telephone network 'STN' via a trunk gateway whose carrier data network IP address is the destination address for information being transmitted from a source address in any of the VPNs to a destination address in the carrier data network, a VPN gateway is provided to interface the public and carrier data networks and to transmit voice over IP 'VoIP' call signaling information between said at least one of said plurality of VPNs and the carrier data network via the public data network and wherein the means for passing is configured to transmit bearer information comprising a VoIP call between said at least one of said plurality of VPNs and the carrier data network via the public data network once a VoIP call has been established in response to said transmission of VoIP call signaling information, the address translator being configured to translate a destination address of said bearer information to the carrier data network IP address of the trunk gateway.

44. (cancelled)

45 [[44]]. (currently amended) The VPN gateway as claimed in claim 43, wherein the STN is a public STN 'PSTN'.

46 [[45]]. (currently amended) The VPN gateway as claimed in claim 40, further comprising a configuration store for storing configuration information comprising source and destinations addresses for information being transmitted between an entity in one of said plurality of VPNs and an entity in said second data network, wherein said configuration information includes information associating said source and destination addresses with respective target addresses, said target addresses comprising the translated destination addresses in said one of said plurality of VPNs and said second data network.

47 [[46]]. (currently amended) A computer readable medium storing computer readable instructions which, when executed by a processor of a computing device,

cause said computing device to implement, in a communication system comprising a plurality of virtual private networks 'VPNs' interconnected by a first data network; a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; and a VPN gateway having a VPN media proxy interfacing the first and second data networks, the steps of:

- providing in the VPN gateway a plurality of virtual routing functions, respective ones of said plurality of virtual routing functions being connected to respective ones of said plurality of VPNs such that each virtual routing function is in the address space of a respective one of said plurality of VPNs;

- passing information via the VPN media proxy from a source address in said at least one of said plurality of VPNs to a destination address in said second data network;

- at an address translator of the VPN media proxy, translating the destination address of the information in accordance with the network addressing scheme of the second data network, and

- sending the information towards the translated destination address in the second data network.